Filing Date: March 10, 2000 Title: METHOD OF VACCINATION

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IN THE CLAIMS

Please amend the claims as follows:

- 1. (Cancelled)
- 2. (Previously Presented) A method of presenting an antigenic peptide on the surface of a viable cancer cell, said method comprising:

contacting said cancer cell with said antigenic peptide and with a photosensitizing agent, wherein said peptide and said agent are each taken up into an intracellular membrane-restricted compartment of said cell;

irradiating said cell with light of a wavelength effective to activate the photosensitizing agent, such that the membrane of said intracellular compartment is disrupted, releasing said peptide into the cytosol of the cell, without killing the cell;

wherein, said released antigenic peptide, or a part thereof of sufficient size to generate a cytotoxic T cell response, is subsequently presented on the surface of said cell by a class I MHC molecule;

wherein presentation of the antigenic peptide, or part thereof, on the surface of said cell results in cytotoxic T cell mediated cell killing; and

wherein the photosensitizing agent is selected from the group consisting of a porphyrin, phthalocyanine and a chlorin.

- 3. (Cancelled)
- 4. (Previously Presented) The method of claim 2, wherein the antigenic peptide is a vaccine antigen or vaccine component.
- 5-7. (Cancelled)

Title: METHOD OF VACCINATION

8. (Previously Presented) The method of claim 2 wherein the photosensitizing agent is meso-tetraphenylporphine with 4 sulfonate groups (TPPS₄), meso-tetraphenylporphine with 2 sulfonate groups on adjacent phenyl rings (TPPS_{2a}), or aluminum phthalocyanine with 2 sulfonate groups on adjacent phenyl rings (AlPcS_{2a}).

- 9. (Previously Presented) The method of claim 2, wherein the antigenic peptide and/or photosensitizing agent is bound to one or more targeting agents or carrier molecules.
- 10. (Previously Presented) The method of claim 2, wherein said method is carried out in vitro or in vivo.
- 11-23. (Cancelled).
- 24. (Previously Presented) A method of presenting an antigenic peptide or a part thereof on the surface of a viable antigen presenting cell, said method comprising:

contacting said cell with the antigenic peptide and with a photosensitizing agent, wherein said peptide and said agent are each taken up into an intracellular membrane-restricted compartment of said cell;

irradiating said cell with light of a wavelength effective to activate the photosensitizing agent, such that the membrane of said intracellular compartment is disrupted, releasing said peptide into the cytosol of the cell, without killing the cell;

wherein, said released peptide, or a part thereof of sufficient size to generate an immune response, is subsequently presented on the surface of said cell by a class I or II MHC molecule;

wherein presentation of the peptide, or part thereof, on the surface of said cell results in stimulation of an immune response; and

wherein the photosensitizing agent is selected from the group consisting of a meso-tetraphenylporphine with 4 sulfonate groups (TPPS₄), meso-tetraphenylporphine

4

Title: METHOD OF VACCINATION

with 2 sulfonate groups on adjacent phenyl rings (TPPS_{2a}), or aluminum phthalocyanine with 2 sulfonate groups on adjacent phenyl rings (AlPcS_{2a}).

- 25. (Previously Presented) The method of claim 24, wherein the antigen presenting cell is selected from the group consisting of a lymphocyte, dendritic cell, macrophage and cancer cell.
- 26. (Previously Presented) The method of claim 24, wherein the antigenic peptide and/or photosensitizing agent is bound to one or more targeting agents or carrier molecules.
- 27. (Previously Presented) The method of claim 24, wherein said method is carried out *in vitro* or *in vivo*.
- 28. (Previously Presented) The method of claim 2, wherein at least 90% of the cells are not killed.
- 29. (Previously Presented) The method of claim 2, wherein at least 95% of the cells are not killed.
- 30. (Previously Presented) The method of claim 2, wherein the photosensitizing agent is a sulfonated tetraphenylporphine, a disulfonated aluminum phthalocyanine or a tetrasulfonated aluminum phthalocyanine.
- 31. (Previously Presented) The method of claim 2, wherein said contacting and said irradiating steps are carried out ex vivo.
- 32. (Previously Presented) The method of claim 31, further comprising administering the cells to a mammal after said irradiating step.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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Title: METHOD OF VACCINATION

- 33. (Previously Presented) The method of claim 24, wherein said contacting and said irradiating steps are carried out *ex vivo*.
- 34. (Previously Presented) The method of claim 33, further comprising administering the cells to a mammal after said irradiating step.
- 35. (New) The method of claim 24, wherein the peptide is 8 to 75 amino acids in length.
- 36. (New) The method of claim 2, wherein the peptide is 8 to 75 amino acids in length.